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10/618,060	07/11/2003	Robert Jackson	15114H-068300US	4329
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			ART UNIT	PAPER NUMBER
SAN FRANCISCO, CA 94111-3834			2825	<u> </u>
		·	DATE MAILED: 07/21/2000	5

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	10/618,060	JACKSON, ROBERT
Office Action Summary	Examiner	Art Unit
	Paul Dinh	2825
The MAILING DATE of this communication a Period for Reply	ppears on the cover sheet w	ith the correspondence address
A SHORTENED STATUTORY PERIOD FOR REP WHICHEVER IS LONGER, FROM THE MAILING - Extensions of time may be available under the provisions of 37 CFR after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory perior. - Failure to reply within the set or extended period for reply will, by state Any reply received by the Office later than three months after the main earned patent term adjustment. See 37 CFR 1.704(b).	DATE OF THIS COMMUNI: 1.136(a). In no event, however, may a set of will apply and will expire SIX (6) MON ute, cause the application to become Al	CATION. reply be timely filed NTHS from the mailing date of this communication. BANDONED (35 U.S.C. § 133).
Status		
1) Responsive to communication(s) filed on 06	July 2006	
	nis action is non-final.	
3) Since this application is in condition for allow		ters, prosecution as to the merits is
closed in accordance with the practice under	•	-
Disposition of Claims		
4) Claim(s) 16-31 is/are pending in the applicat	ion.	
4a) Of the above claim(s) is/are withdr		
5) Claim(s) is/are allowed.		
6)⊠ Claim(s) <u>16-31</u> is/are rejected.		
7) Claim(s) is/are objected to.		
8) Claim(s) are subject to restriction and	/or election requirement.	
Application Papers		
9) The specification is objected to by the Examin	ner.	
10)⊠ The drawing(s) filed on <u>11 July 2003</u> is/are: a		cted to by the Examiner.
Applicant may not request that any objection to the		
Replacement drawing sheet(s) including the corre	• • • • • • • • • • • • • • • • • • • •	
11) The oath or declaration is objected to by the		
Priority under 35 U.S.C. § 119		
	an naiority under 25 H C C I	S 110(a) (d) az (6)
12) ☐ Acknowledgment is made of a claim for foreign a) ☐ All b) ☐ Some * c) ☐ None of: 1. ☐ Certified copies of the priority docume	nts have been received.	
2. Certified copies of the priority docume3. Copies of the certified copies of the priority docume	iority documents have been	· · · · · · · · · · · · · · · · · · ·
application from the International Bure	, , , ,	·
* See the attached detailed Office action for a list	st of the certified copies not	received.
Attachment(s)		
Notice of References Cited (PTO-892)	4) 🖂 Intentions	Summary (PTO-413)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date
Information Disclosure Statement(s) (PTO-1449 or PTO/SB/0 Paper No/s)/Mail Date	(8) 5) Notice of I	Informal Patent Application (PTO-152)

U.S. Patent and Trademark Office PTOL-326 (Rev. 7-05)

DETAILED ACTION

This is a response to the amendment filed on 7/6/06.

Claims 16-31 are pending.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Claims 29-30 recite a (first) programmable logic device and a component external to a first programmable logic device; therefore, these features must be clearly shown in the drawings or these features canceled from the claim(s).

No new matter should be entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 16-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 16-31 are rejected because the following claims features are not clearly disclosed by the disclosure:

Claim 16, "comparing" and "subset".

Claim 19, "complementary operation".

Claim 23, "single bus/communication protocol".

Claims 24-25, "the subset including at least two bus/communication protocols".

Claims 29-30, "a programmable logic device", a first programmable logic device", and " a component external to a first programmable logic device"

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 16-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 16-31 are rejected because:

(Claim 16) "comparing the sets of alternative bus/communication protocols to identify ..." is unclear and incomplete as to comparing the sets of alternative bus/communication protocols with/to what.

(Claim 16) "subset" renders the claim indefinite because "subset" is not defined in the claim; therefore, it is unclear as to what "subset" is meant to encompass.

(Claims 17-22) "first one", "parameter values" "operation", "connection value(s)" render the claim incomplete and indefinite because "first one", "parameter values" "operation", "connection value(s)", "role value(s)" are not defined in the claim; therefore, it is unclear as to what "first one", "connection value(s)", "role value(s)" are meant to encompass; what "parameter values" and what "operation" the applicant means

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

(Claim 23) "the subset having a single bus/communication protocol" lacks antecedent basis.

(Claim 24) "the subset including at least two bus/communication protocols" lacks antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form The basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 16-27, 31 are rejected under 35 U.S.C. 102(e) as being anticipated by the prior art of record Raghunathan (USP 6694488)

(Claim 16) Receive a system design including component connected via component ports from a system designer (one or more of: fig 1-5, 8, 10-12, 15-17, col 4 line 37+, col 12 line 51+, col 13 line 60+, col 17 line 20+, col 18 line 8+);

For each of the component ports, identifying a set of alternative bus/communication protocols supported by the component port (one or more of: fig 1, 5, 8, 10-12, 15-17, col 2 line 11+);

Comparing the sets of alternative bus/communication protocols of the component ports to identify a subset of the bus/communication protocols supported by all of the component ports (one or more of: fig 1-5, 8, 10-12, 15-17); and

Selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports (one or more of: col 2 lines 11-12, col 11 line 44+, col 14 lines 20+, fig 1-5, 8, 10-12, 15-17).

(Claims 17-18, 20) wherein comparing the sets of alternative bus/communication protocols comprises comparing a parameter value/operation/connection values of a first one of the set of alternative bus/communication protocols supported by a first one of the component ports with corresponding parameter values/operation/connection values of each of the sets of alternative bus/communication protocols supported by the other component ports to identify the subset of the bus/communication protocols having compatible parameter values/operations/connection values (one or more of fig 1, 3, 5, 8, 10-12, 15-17; operation = i.e., one or more of read, write, DMA mode, priority, partitioning, system execution, etc)

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(Claim 19) wherein the subset of the bus/communication protocols having a compatible operation includes a first operation (i.e., read) associated with a first one of the component ports and a complementary operation (i.e., write) associated with at least one of the other component ports.

(Claim 21) wherein the subset of the bus/communication protocols having compatible connection values includes an input for a first operation associated with first one of the component ports and an output for the first operation associated with at least one of the other component ports (fig 1, 3, 5, 8-12, 15-17).

(Claim 22) wherein comparing the sets of alternative bus/communication protocols comprises comparing a role value of a first one of the set of alternative bus/communication protocols supported by a first one of the component ports with corresponding role values of each of the sets of alternative bus/communication protocols supported by the other component ports to identify the subset of the bus/communication protocols having compatible role values (one or more of fig 1, 3, 5, 8, 10-12, 15-17; operation = i.e., one or more of read, write, DMA mode, priority, partitioning, system execution, etc) wherein each role values is associated with at least one operation, wherein each connection value is associated with at least one operation, wherein each operation is associated with at least one parameter value (one or more of fig 1, 3, 5, 8, 10-12, 15-17)

(Claim 23) wherein selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports comprises determining the number of bus/communication protocols included in the subset (fig 1, 3, 5, 8, 10-12, 15-17); in response to the subset having a single bus/communication protocol, selecting the single bus/communication protocol (fig 1, 3, 5, 8, 10-12, 15-17); in response to the subset being an empty set, notifying the designer that the connections between the components via the component ports can not be made (fig 1, 3, 5, 8, 10-12, 15-17).

(Claims 24-25) in response to the subset including at least two bus/communication protocols, automatically selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports (one or more of: col 2 lines 11-12, col 11 line 44+, col 14 lines 20+, fig 1-5, 8, 10-12, 15-17); presenting the

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subset to the system designer (one or more of: fig 1-5, 8, 10-12, 15-17, col 4 line 37+, col 12 line 51+, col 13 line 60+, col 17 line 20+, col 18 line 8+)

(Claims 26-27) wherein identifying a set of alternative bus/communication protocols supported by the component port comprises: for each component port, retrieving corresponding component information from a component library wherein the component library is stored in a database (fig 1, 3, 8, 11, 15-17)

(Claim 31) analyzing the selected on of the subset of bus/communication protocols to identify a first set of connection defined by the selected one of the subset of bus/communication protocols (fig 1-3, 5, 8, 10-12, 15-17); analyzing the component ports of the components to identify the connections used by the component ports for the selected one of the subset of bus/communication protocols (fig 1, 3, 5, 8, 11-12, 15-170); and comparing the connection used by the component port of the components with the first set of connections to determine a portion of the first set of connection necessary to implement the connections (fig 1, 3, 5, 8-12, 15-17)

2. Claims 16-21, 23-25 are rejected under 35 U.S.C. 102(e) as being anticipated by the prior art of record Pasumansky (USP 6826639)

(Claim 16) Receive a system design including component connected via component ports from a system designer (fig 1);

For each of the component ports, identifying a set of alternative bus/communication protocols supported by the component port (fig 1, 4-5, 7, abstract, summary);

Comparing the sets of alternative bus/communication protocols of the component ports to identify a subset of the bus/communication protocols supported by all of the component ports (fig 1, 4-5, 7); and

Selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports (col 4 lines 5-10, col 7 line 54+)

(Claims 17-18, 20) wherein comparing the sets of alternative bus/communication protocols comprises comparing a parameter value/operation/connection values of a first one of the set of alternative bus/communication protocols supported by a first one of the

component ports with corresponding parameter values/operation/connection values of each of the sets of alternative bus/communication protocols supported by the other component ports to identify the subset of the bus/communication protocols having compatible parameter values/operations/connection values (fig 1-8)

(Claim 19) wherein the subset of the bus/communication protocols having a compatible operation includes a first operation (i.e., master (col 2)) associated with a first one of the component ports and a complementary operation (i.e., slave (col 2)) associated with at least one of the other component ports.

(Claim 21) wherein the subset of the bus/communication protocols having compatible connection values includes an input for a first operation associated with first one of the component ports and an output for the first operation associated with at least one of the other component ports (fig 1-3).

(Claim 23) wherein selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports comprises determining the number of bus/communication protocols included in the subset (fig 1-5); in response to the subset having a single bus/communication protocol, selecting the single bus/communication protocol (fig 1); in response to the subset being an empty set, notifying the designer that the connections between the components via the component ports can not be made (fig 1-5).

(Claims 24-25) in response to the subset including at least two bus/communication protocols, automatically selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports (fig 1-5); presenting the subset to the system designer (fig 1-5)

3. Claims 16-21, 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by the prior art of record Axberg (USP 6009466)

(Claim 16) Receive a system design including component connected via component ports from a system designer (abstract, fig 10-11);

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For each of the component ports, identifying a set of alternative bus/communication protocols supported by the component port (col 3, abstract, fig 10-12);

Comparing the sets of alternative bus/communication protocols of the component ports to identify a subset of the bus/communication protocols supported by all of the component ports (col 3, abstract, fig 10-12); and

Selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports (fig 10-12)

(Claims 17-18, 20) wherein comparing the sets of alternative bus/communication protocols comprises comparing a parameter value/operation/connection values of a first one of the set of alternative bus/communication protocols supported by a first one of the component ports with corresponding parameter values/operation/connection values of each of the sets of alternative bus/communication protocols supported by the other component ports to identify the subset of the bus/communication protocols having compatible parameter values/operations/connection values (fig 1-2, 9-12)

(Claim 21) wherein the subset of the bus/communication protocols having compatible connection values includes an input for a first operation associated with first one of the component ports and an output for the first operation associated with at least one of the other component ports (fig 1-2, 9-12)

(Claim 23) wherein selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports comprises determining the number of bus/communication protocols included in the subset (fig 1-2, 9-12); in response to the subset having a single bus/communication protocol, selecting the single bus/communication protocol (col 3); in response to the subset being an empty set, notifying the designer that the connections between the components via the component ports can not be made (fig 1-2, 9-12)

(Claims 24-25) in response to the subset including at least two bus/communication protocols, automatically selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports (fig 9-12); presenting the subset to the system designer (fig 9-12)

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4. Claims 16-27, 29-30 are rejected under 35 U.S.C. 102(b) as being anticipated by the prior art of record Vorbach (USP 6721830)

(Claim 16) Receive a system design including component connected via component ports from a system designer (abstract, fig 10-16);

For each of the component ports, identifying a set of alternative bus/communication protocols supported by the component port (abstract, fig 10-16);

Comparing the sets of alternative bus/communication protocols of the component ports to identify a subset of the bus/communication protocols supported by all of the component ports (abstract, fig 10-16); and

Selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports (abstract, fig 10-16)

(Claims 17-18, 20) wherein comparing the sets of alternative bus/communication protocols comprises comparing a parameter value/operation/connection values of a first one of the set of alternative bus/communication protocols supported by a first one of the component ports with corresponding parameter values/operation/connection values of each of the sets of alternative bus/communication protocols supported by the other component ports to identify the subset of the bus/communication protocols having compatible parameter values/operations/connection values (fig 10-16)

(Claim 21) wherein the subset of the bus/communication protocols having compatible connection values includes an input for a first operation associated with first one of the component ports and an output for the first operation associated with at least one of the other component ports (fig 6-9)

(Claim 23) wherein selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports comprises determining the number of bus/communication protocols included in the subset (fig 10-16); in response to the subset having a single bus/communication protocol, selecting the single bus/communication protocol (fig 12); in response to the subset being an empty set, notifying the designer that the connections between the components via the component ports can not be made (fig 12-16)

(Claims 24-25) in response to the subset including at least two bus/communication protocols, automatically selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports (fig 13-16); presenting the subset to the system designer (fig 13-16)

(Claims 26-27) wherein identifying a set of alternative bus/communication protocols supported by the component port comprises: for each component port, retrieving corresponding component information from a component library wherein the component library is stored in a database (fig 12)

(Claims 29-30) wherein at least one of the connections is between to components component within a PLD (fig 10, 12); wherein at least one of the connections is between a components component within a first PLD and a component external to the first PLD (fig 10, 12)

5. Claim 16 is rejected under 35 U.S.C. 102(e) as being anticipated by the prior art of record Brewer (USP 6895477)

(Claim 16) Receive a system design including component connected via component ports from a system designer (fig 1-2);

For each of the component ports, identifying a set of alternative bus/communication protocols supported by the component port (fig 2);

Comparing the sets of alternative bus/communication protocols of the component ports to identify a subset of the bus/communication protocols supported by all of the component ports (fig 1-2); and

Selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports (abstract, fig 2)

6. Claims 16-27, 29-31 are rejected under 35 U.S.C. 102(e) as being anticipated by the prior art of record Gemelli (US Pub. 2003/0101307)

(Claim 16) Receive a system design including component connected via component ports from a system designer (one or more of fig 12-13, 15-16, 29, for designer see one or more of:

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abstract, para 0003, 0016, 0018, 0025-0026, 0042, 0044, 0051-0052, 0056-0057, 0061-0062, etc);

For each of the component ports, identifying a set of alternative bus/communication protocols supported by the component port (one or more of fig 12-13, 15-17, 29);

Comparing the sets of alternative bus/communication protocols of the component ports to identify a subset of the bus/communication protocols supported by all of the component ports (one or more of fig 12-13, 15-16, 29); and

Selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports (see peripheral selection, interface bus protocol selection, ports selection in para 0094-0095, 0099, 0170, 0171, 0179-0180, 0203-0205, 0207-0212, 0308, 0367, 0374, 0503, 0505, 0652, 0771, claim 1, etc).

(Claims 17-18, 20) wherein comparing the sets of alternative bus/communication protocols comprises comparing a parameter value/operation/connection values of a first one of the set of alternative bus/communication protocols supported by a first one of the component ports with corresponding parameter values/operation/connection values of each of the sets of alternative bus/communication protocols supported by the other component ports to identify the subset of the bus/communication protocols having compatible parameter values/operations/connection values (one or more of fig 2, 12-13, 15-17, 29, 31-38, 40-43; operation = i.e., one or more of master, slave, idle read, write, DMI, DMA, mode, priority, , system execution, etc)

(Claim 19) wherein the subset of the bus/communication protocols having a compatible operation includes a first operation (i.e., read/write and/or master/slave and/or idle/execution) associated with a first one of the component ports and a complementary operation (i.e., write/read and/or slave/master and/or execution/idle) associated with at least one of the other component ports.

(Claim 21) wherein the subset of the bus/communication protocols having compatible connection values includes an input for a first operation associated with first one of the component ports and an output for the first operation associated with at least one of the other component ports (one or more of: fig 2, 12-13, 15-17, 29, 31-38, 40-43).

(Claim 22) wherein comparing the sets of alternative bus/communication protocols comprises comparing a role value of a first one of the set of alternative bus/communication protocols supported by a first one of the component ports with corresponding role values of each of the sets of alternative bus/communication protocols supported by the other component ports to identify the subset of the bus/communication protocols having compatible role values (one or more of: fig 2, 12-13, 15-17, 29, 31-38, 40-43; operation = i= i.e., one or more of master, slave, idle read, write, DMI, DMA, mode, priority, , system execution, etc); wherein each role values is associated with at least one operation, wherein each operation is associated with at least one parameter value (one or more of: fig 2, 12-13, 15-17, 29, 31-38, 40-43)

(Claim 23) wherein selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports comprises determining the number of bus/communication protocols included in the subset (one or more of: fig 2, 12-13, 15-17, 29, 31-38, 40-43); in response to the subset having a single bus/communication protocol, selecting the single bus/communication protocol (one or more of: fig 2, 12-13, 15-17, 29, 31-38, 40-43); in response to the subset being an empty set, notifying the designer that the connections between the components via the component ports can not be made (one or more of: fig 2, 12-13, 15-17, 29, 31-38, 40-43).

(Claims 24-25) in response to the subset including at least two bus/communication protocols, automatically selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports (one or more of: fig 2, 12-13, 15-17, 29, 31-38, 40-43); presenting the subset to the system designer (one or more of: fig 2, 12-13, 15-17, 29, 31-38, 40-43)

(Claims 26-27) wherein identifying a set of alternative bus/communication protocols supported by the component port comprises: for each component port, retrieving corresponding component information from a component library wherein the component library is stored in a database (0475)

(Claims 29-30) wherein at least one of the connections is between to components component within a PLD (fig 10, 12); wherein at least one of the connections is between a

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components component within a first PLD and a component external to the first PLD (one or more of: title, abstract, para 0001-0002, 0016, 0018, 0052, 0053, 0093, 0164, fig 10-11)

(Claim 31) analyzing the selected on of the subset of bus/communication protocols to identify a first set of connection defined by the selected one of the subset of bus/communication protocols (one or more of: fig 2, 12-13, 15-17, 29, 31-38, 40-43); analyzing the component ports of the components to identify the connections used by the component ports for the selected one of the subset of bus/communication protocols (one or more of: fig 2, 12-13, 15-17, 29, 31-38, 40-43); and comparing the connection used by the component port of the components with the first set of connections to determine a portion of the first set of connection necessary to implement the connections (one or more of: fig 2, 12-13, 15-17, 29, 31-38, 40-43)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a), which forms the basis for all obviousness rejections, set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

 Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over one or more of: Raghunathan (USP 6694488), Vorbach (USP 6721830) and Gemelli (US Pub. 2003/0101307) in view of one or more of Beunings (US pub. 2003/0217176), Bales (US pub. 2004/0068554)

Raghunathan, Vorbach and Gemelli disclose substantially all the elements in claim 28 except XML.

Beunings discloses XML in para 0017.

Bales discloses XML in para 0035.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use XML simply because one or more of the followings:

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XML is known in the art for communication protocol (by Bales in para 0035).

XML is a communication protocol standard (by Beunings in para 0017).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Dinh whose telephone number is 571-272-1890. If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Jack Chiang can be reached on 571-272-7483. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PAUL DINH PRIMARY EXAMINER